

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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SUEDE

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(PCT Rule 71.1)

Date of mailing
(day/month/year) 24.08.2005

Applicant's or agent's file reference
w 5039-019 lb

IMPORTANT NOTIFICATION

International application No.
PCT/EP2004/002188

International filing date (day/month/year)
04.03.2004

Priority date (day/month/year)
26.04.2003

Applicant
SONY ERICSSON MOBILE COMMUNICATIONS AB ET AL.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference w 5039-019 lb	FOR FURTHER ACTION		See Form PCT/PEA416
International application No. PCT/EP2004/002188	International filing date (day/month/year) 04.03.2004	Priority date (day/month/year) 26.04.2003	
International Patent Classification (IPC) or national classification and IPC H01Q1/22, H01Q1/40, H01Q1/42			
Applicant SONY ERICSSON MOBILE COMMUNICATIONS AB ET AL.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 3 sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 25.02.2005		Date of completion of this report 24.08.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Van Dooren, G Telephone No. +31 70 340-2952 	

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

10/554016

International application No.
PCT/EP2004/002188

JC20 Rec'd PCT/PTO 21 OCT 2005

Box No. 1 Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-10 as originally filed

Claims, Numbers

1-18 received on 28.02.2005 with letter of 24.02.2005

Drawings, Sheets

1/3-3/3 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☒ the claims, Nos. 1
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	4-6,10,12,16
	No: Claims	1-3,7-9,11,13,14,17,18
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)

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Re Item I**Basis of the report**

1. The amendments filed with the International Bureau under Article 19(1) PCT introduce subject matter which extends beyond the content of the application as filed, contrary to the requirements of Article 19(2) PCT. The amendments to independent claim 1 are the following:
 - said housing comprises a protruding member having an irregular shape; and
 - in that the geometric shape of the support element (111) is conformed to the irregular shape of the protruding member (11, 20, 30) of said housing.

The generalised formulation '*irregular shape*' broadens the scope of the claim, as it encompasses **any** irregular shape, while in the description only two embodiments are shown, namely an L-shaped and a corrugated one. It is further doubtful, what actually '*irregular*' means in this context, and whether the embodiments shown in figures 2b and 2c actually qualify to be denominated '*irregular*'.

- 1.1 Examination will proceed on basis of the independent claim 1 being interpreted as '*regular shape*' **exclusively** meaning 'L-shaped' or corrugated, cf. dependent claim 2.

Re Item V**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. The following documents are referred to in this communication:
 - D3: US-B-6 456 245 (CRAWFORD JAMES A) 24 September 2002 (2002-09-24)
 - D4: US-B-6 518 929 (Mobilian Corp.) 11 February 2003 (2003-02-11)
 - D5: US-B-5 913 174 (Proxim Inc.) 15 June 1999 (1999-06-15)
 - D6: EP 1 056 152 A (Nokia Mobile Phones LTD) 29 November 2000 (2000-11-29)
- 1.1 The documents D4-D6 were not cited in the international search report.
2. The present application does not meet the criteria of Article 33(1) PCT, because the

subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

2.1 Document D4 discloses (the references in parenthesis applying to this document):
A card device (cf. fig. 16, col. 7, l. 18-20) for insertion in a computer, comprising a housing (col. 7, l.58-65: protective sealant), at least a first antenna (col. 7, l.58-65: antenna structure) arranged on a support element (col. 7, l.58-65: substrate material); and antenna output means (cf. fig. 2) wherein

- said housing comprises a protruding member having an irregular shape (cf. fig. 15, 16); and
- the geometric shape of the support element is conformed to the irregular shape of the protruding member of said housing.

The subject-matter of claim 1 is therefore not new (Article 33(2) PCT).

3. Dependent claims 2-18 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT) for the following reasons:

- the subject matter of dependent claims 2,3,7-9,11,13,14,17,18 is further disclosed in D4; and
- the subject matter of dependent claims 4-6,10,12,16 is considered to be obvious over the disclosure present in D4, since the subject matter contained in these claims is considered to be mere design options, not involving any inventive skill; and
- the subject matter of dependent claim 15 is considered to be obvious over the disclosure present in D4, in the light of the disclosure in D3 in solving the problem of how to improve the reception characteristics for the combination of the first and second antenna.

4. For the sake of completeness it is mentioned that in view of document D5, the independent claim is considered not to be inventive (Article 33(3) PCT).

4.1 Document D5 discloses (the references in parenthesis applying to this document): a card device (cf. fig. 1) for insertion in a computer, comprising a housing (1,2), at least

a first antenna (63) arranged on a support element (57) ; and antenna output means (7) wherein

- said housing comprises a protruding member (1) having a shape; and
- the geometric shape of the support element (57) is conformed to the shape of the protruding member (1) of said housing.

4.2 The subject matter of claim 1 differs from this known card device in that the shape of the protruding member is irregular (cf. point 2, 2.1).

4.3 The use a protruding member with a irregular shape is known in the art, and does not result in any surprising effect, see *for example*, document D4, figures 15 and 16, and D6, figures 2 and 3.

Consequently, independent claim 1 is considered not to be inventive,

5. Dependent claims 2-18 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT) for the following reasons:

- the subject matter of dependent claims 2-9,12,16,18 is further disclosed in D5; and
- the subject matter of dependent claims 10,11,13-14,17 is considered to be obvious over the disclosure present in D5, since the subject matter contained in these claims is considered to be mere design options, not involving any inventive skill; and
- the subject matter of dependent claim 15 is considered to be obvious over the disclosure present in D5, in the light of the disclosure in D3 in solving the problem of how to improve the reception characteristics for the combination of the first and second antenna.

Re Item VIII

Certain observations on the international application

1. The applicant has stated that the term '*irregular shape*' excludes the embodiment

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(SEPARATE SHEET)**

International application No.

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shown in figure 2a of the application, however, in the description this specific embodiment is still retained, which causes a lack of clarity of the claims (Article 6 PCT).

2. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in documents D3-D6 is not mentioned in the description, nor are these documents identified therein.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/002188

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01Q1/22 H01Q1/40 H01Q1/42

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 954 054 A (YOKOWO SEISAKUSHO KK) 3 November 1999 (1999-11-03) paragraphs [0019], [0027] - [0031]; figures 6,8	1-5,7, 9-13
Y	-----	8
X	WO 99/17398 A (ERICSSON GE MOBILE INC) 8 April 1999 (1999-04-08) page 7, line 19 - page 8, line 21; figures 2,3	1,2,4,6
Y	-----	8
Y	US 6 456 245 B1 (CRAWFORD JAMES A) 24 September 2002 (2002-09-24) column 7, lines 40-64; figure 5	8
A	-----	8
A	WO 98/27617 A (ERICSSON GE MOBILE INC) 25 June 1998 (1998-06-25) figures 5,6	8

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

31 August 2004

Date of mailing of the international search report

04.10.2004

Name and mailing address of the ISA

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Authorized officer

Van Dooren, G

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2004/002188

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/EP2004 /002188

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7,9-13

mechanical construction of support element

2. claim: 8

improvement of reception characteristics

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/002188

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0954054	A	03-11-1999	JP 11317612 A	16-11-1999
			JP 2000040912 A	08-02-2000
			CN 1233862 A , B	03-11-1999
			EP 0954054 A1	03-11-1999
			US 6130651 A	10-10-2000
WO 9917398	A	08-04-1999	US 6018326 A	25-01-2000
			AU 752310 B2	12-09-2002
			AU 1063299 A	23-04-1999
			BR 9812688 A	22-08-2000
			CN 1279826 T	10-01-2001
			EP 1202379 A1	02-05-2002
			EP 1019980 A2	19-07-2000
			WO 9917398 A2	08-04-1999
US 6456245	B1	01-08-2002	US 2002101377 A1	01-08-2002
			AU 3650602 A	24-06-2002
			WO 0249153 A1	20-06-2002
WO 9827617	A	25-06-1998	US 5936580 A	10-08-1999
			AU 5700998 A	15-07-1998
			WO 9827617 A1	25-06-1998